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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,744	10/19/2001	Dong Wan Ryoo	P67235US0	6169

7590 10/19/2004

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EXAMINER

TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/981,744

Applicant(s)

RYOO ET AL.

Examiner

Joseph D. Torres

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement (copied from previous action)***

1. The information disclosure statement filed 19 October 2001 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because It does not contain sufficient information for the Examiner to determine relevance (the Examiner suggests that a translation of the Abstract of each of the Korean patents would be adequate and would like to point out that Abstracts of foreign patents are generally readily available). It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Drawings***

2. The proposed drawing correction filed 07 June 2004 is approved. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Specification***

3. In view of the amendment filed 07 June 2004, the objection to the specification is withdrawn.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites, "through digital operation and finding a failed channel to output information of the failed channel", which is incomprehensible.

Claim 1 recites, "signal-maintaining means for performing digital operation of judging signals of the failed channels from the comparing means and carrying out feedback to improve stability of system trip, wherein the judging means is MISO type generating a normal command signal removing errors after judging errors by voting the signals received from a number of channels of the system board through digital operation." Which has a multitude of grammatical problems rendering the claim language indefinite. For example; it is not clear what is meant by "carrying out feedback". Is a feedback signal provided, is a feedback signal generated...? It is not clear what "by voting the signals" means.

### ***Response to Arguments***

5. Applicant's arguments filed 07 June 2004 have been fully considered but they are not persuasive.

The Applicant contends, "channels of the system board through digital operation. In other words, the voter of the present invention is MISO (Multiple Input Single Output) type. In contrast, as shown in the drawings of Nurmohamed et al., the voter circuit illustrates MIMO (Multiple Input Multiple Output) type".

The Examiner disagrees and asserts that col. 1, lines 4-6 of Nurmohamed teaches that Figure 1 of Nurmohamed is a voter circuit for three-channel redundant system. The Examiner asserts that when there is no error the output the three channels will be identical. Col. 1, lines 7-27 of Nurmohamed teaches that in control systems of high reliability, it is common to provide three identical channels in parallel for processing data, with voter circuits provided at intervals along the channels whereby each voter circuit monitors the three channels to determine whether or not the signals in the three channels are substantially equal. The Examiner asserts that although there are three channels there is substantially one output since the redundant lines are used to maintain the integrity of the data transmission through the channel. Furthermore, the receiving destination is only interested in a single output; hence the last voter circuit in the chain must inherently provide a final decision on the output and a single output. Furthermore; the MIMO circuits in Nurmohamed are inherently capable of functioning as

MISO circuits since ultimately the lines are meant to provide a single correct data since two of the lines are redundant. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971).

The Applicant contends, "Furthermore, Nurmohamed et al. neither discloses nor suggests signal-maintaining means for performing digital operation of judging signals of failed channels from the comparing means and carrying out feedback to improve stability of system trip, as recited in claim as amended". Col. 2, lines 50-60 in Nurmohamed teach that the monitoring circuit 16 in Figure 1 of Nurmohamed is a means for judging signals respectively received in a number of channels 10, 11 and 12. Col. 2, lines 50-60 in Nurmohamed teach that three comparators in the monitoring circuit 16 in Figure 1 of Nurmohamed is a means for comparing the signals 1, 2 and 3 respectively received in a number of channels 10, 11 and 12 to output signals 1, 2 and 3 outputted from Amplifiers 13, 14 and 15 respectively informing if the channels are failed or not; Note: col. 3, lines 20-33 in Nurmohamed teach that error signals indicating a channel failure are output on line 17 of Figure 1. The Abstract in Nurmohamed teaches that if channel 1 or channel 3 fails the output for that channel is switched to channel 2 or channel 1 respectively to maintain the operation of the system. Hence Nurmohamed teaches signal-maintaining means (monitoring circuit 16 in Figure 1 of Nurmohamed) for performing digital operation of judging signals of failed channels from the comparing means (three comparators in the monitoring circuit 16 in Figure 1 of Nurmohamed is a

Art Unit: 2133

means for comparing the signals 1, 2 and 3 respectively received in a number of channels 10, 11 and 12 to output signals 1, 2 and 3 outputted from Amplifiers 13, 14 and 15 respectively informing if the channels are failed or not; Note: the Abstract in Nurmohamed clearly teaches judging signals of failed channels from the comparing means, e.g., if channel 1 or channel 3 fails the output for that channel is switched to channel 2 or channel 1 respectively to maintain the operation of the system and since the monitoring circuit in Nurmohamed is digital the judging means is a digital operation) and carrying out feedback to improve stability of system trip, as recited in claim as amended (Abstract in Nurmohamed teaches that feedback is provided from the monitoring system so that input to failed channels is provided correctly operating channels to maintain the operation of the system, i.e., to improve stability of system trip as the data traverses the channel, Note: The Authoritative Dictionary of IEEE Standards Terms defines feedback as a portion of the output of a control system used as input for another phase of the system, particularly for self-correction, hence information from the monitoring circuit is feedback).

The Examiner disagrees with the applicant and maintains all rejections of claims 1-6.

All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 1-6 are not patentably distinct or non-obvious over the prior art of record in view of the reference, Nurmohamed; Amin Mulji et al. (US 3725818 A, hereafter referred to as Nurmohamed) as applied in the last office action, Paper No. 4 (filed 09 March 2004). Therefore, the rejection is maintained.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nurmohamed; Amin Mulji et al. (US 3725818 A, hereafter referred to as Nurmohamed). See Paper No. 4 (filed 09 March 2004) for detailed action of prior rejections.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



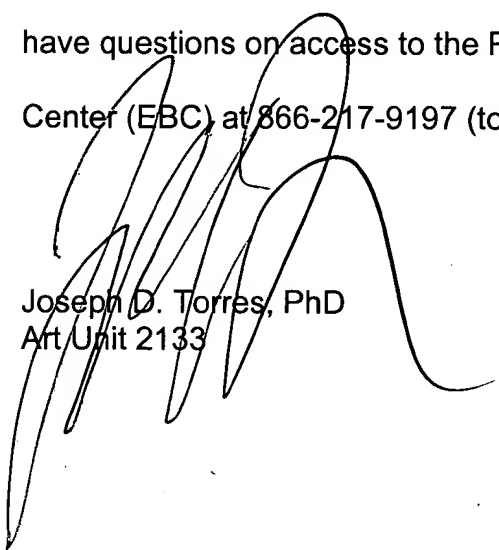
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph D. Torres, PhD  
Art Unit 2133

  
Guy J. LAMARRE  
PRIMARY EXAMINER